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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,435	03/25/2005	Thomas Schoebel-Theuer	M&K Case 150	2551
23474 7590 06/29/2007 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631			EXAMINER ROJAS, MIDYS	
			ART UNIT 2185	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,435	Applicant(s) SCHOEBEL-THEUER, THOMAS	
	Examiner Midys Rojas	Art Unit 2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The references cited in the Search Report issued by the EPO on 6/8/04 have been considered, but will not be listed on any patent resulting from this application because they were not provided on a separate list in compliance with 37 CFR 1.98(a)(1). In order to have the references printed on such resulting patent, a separate listing, preferably on a PTO/SB/08A and 08B form, must be filed within the set period for reply to this Office action.

3. The information disclosure statement (IDS) submitted on 3/25/05 has been partially considered by the examiner. The Non-Patent Literature cited, titled "Malloc (3) in Modern Virtual Memory Environments" has not been considered because applicant has not provided a copy of this reference.

Drawings

4. The drawings filed on 3/25/05 have been considered by the examiner.

Specification

5. The disclosure is objected to because it lacks titles separating the various sections of the specification. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2185

7. Claim 13 recites the limitation "the read and/or write access" in line 3. There is insufficient antecedent basis for this limitation in claim 13 and in claim 1, which it depends from.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention does not fall within at least one of the four categories of patent eligible subject matter recited in 35 U.S.C. 101 (process, machine, manufacture, or composition of matter). A database or operating system are directed to software, which is not patent eligible subject matter.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-5, 10-11, 13-15, and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakhimovsky (6,058,460).

Regarding Claim 1, Nakhimovsky discloses a method for regulating access to data in at least one data storage device (shared memory 14) in a system (Figure 1) comprising a plurality of individual systems (processors 12a-12n), in which the individual systems reserve themselves free data areas or address areas in the data storage device (Col. 3, line 66 – Col. 4, line 12) and the reserved areas are then blocked for access by other individual systems (Col. 4, lines 17-33;

Art Unit: 2185

“...requires the pool to be locked which prevents other memory functions to be performed at the same time”; Col. 6, lines 16-44), with areas (20, 23; 48) which are speculatively extended by expansion areas in comparison with the directly required areas being reserved (the directly required memory area being reserved is represented by the allocated memory pool which is expanded in the event that the size of the memory pool has been exhausted. The expansion is performed by allocating additional memory from the system memory, Col. 4, lines 14-33).

Regarding Claim 2, Nakhimovsky discloses a method characterized in that the individual systems identify (thread running on corresponding processor, Col. 3, lines 63-65) a directly required area from at least one address statement (additional threads allocate their own memory pools from the system memory. Thus, each thread is associated with a memory pool for user in executing its operations, Col. 4 lines 2-5).

Regarding Claim 3, Nakhimovsky discloses a method characterized in that at least part of the data storage device (14) is provided as a communication device for the individual systems (12a-n). Memory system 14 is provided with system bus 16 for communication with the individual processors 12a-n via the I/O channels shown (Figure 1 and Col. 3, lines 45-52)

Regarding Claim 4, Nakhimovsky discloses a method characterized in that at least two individual systems (12a-n) use a common area of the data storage device (system memory 14 is shared by all processors, therefore, the processors use it as a common storage area, Col. 3, lines 45-52).

Regarding Claim 5, Nakhimovsky discloses a method characterized in that the system comprising a plurality of individual systems (12a-n) is a distributed system (Figure 1 and “multi-processing network 10, Col. 3, lines 45-52).

Art Unit: 2185

Regarding Claim 10, Nakhimovsky discloses a method characterized in that the individual systems (12a-n) are databases and/or operating systems and/or individual modules (12a-n represent individual processors that are individual modules, Col. 3, lines 45-52).

Regarding Claim 11, Nakhimovsky discloses a method characterized in that the individual systems (12a-n) and the at least one data storage device (14) are decoupled from one another by means of buffer cache units (establishing a memory pool involves the allocation of a memory buffer of a pre-selected size, Col. 4, lines 17-33).

Regarding Claim 13, Nakhimovsky discloses a method characterized in that reservations relate to a read and/or write access (the threads that request the reservation of memory belong to individual processors, Col. 3, lines 63-65, and these threads run to execute an application by accessing a section of memory allocated to them; wherein reads and writes are types of accesses, Col. 3, lines 45-58).

Claim 14 is rejected using the same rationale as that of Claim 1 wherein the storage device is for regulating access to data in a system is disclosed in Figure 1 of Nakhimovsky.

Claim 15 is rejected using the same rationale as that of Claim 2.

Regarding Claim 20, Nakhimovsky discloses the data storage device characterized in that it contains program code, which can be executed by a processor (an application which may be running on one or more processors, including threads, allocates memory sections from the data storage 14, Col. 53-58) in a computer.

Claim 17 is rejected using the same rationale as that of Claim 1 wherein the individual system, particularly an individual module, is represented by one of the processors 12a-n and

Art Unit: 2185

where the requesting means designed to reserve areas is represented by the locking mechanisms shown in Figure 2.

Claim 18 is rejected using the same rationale as that of Claim 2.

Claim 19 is rejected using the same rationale as that of Claims 3 and 4.

Regarding Claim 21, Nakhimovsky discloses a message for communication between a data storage device characterized in that it contains a reservation request or a reservation confirmation for at least one speculatively extended area (the reservation request in the form of the determination that the size of the memory pool has been exhausted and must be expanded, Col. 2, lines 31-35).

Regarding Claim 22, Nakhimovsky discloses a storage medium having a data storage device (14) and/or an individual system, particularly an individual module, wherein shared memory 14 is an individual memory module (Figure 1).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6-9, 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakhimovsky (6,058,460) in view of Bishop et al. (5,826,082).

Regarding Claim 6, Nakhimovsky discloses the method as claimed in claim 1. Nakhimovsky does not teach at least part of a respective reserved expansion area going beyond the directly required area is released upon a reservation request relating to at least part of the

Art Unit: 2185

reserved expansion area from another individual system or from a data storage device. Bishop et al. discloses at least part of a respective reserved expansion area going beyond the directly required area (“resources not in use, but reserved by a thread....”) is released upon a reservation request (thread submits a request to the resource manager, Col. 3, lines 6-7) relating to at least part of the reserved expansion area from another individual system or from a data storage device (“... can be temporarily loaned to a higher priority operation”, Col. 3, lines 45-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the system to reallocate a previously allocated memory area to a new requestor, as disclosed by Bishop, since doing so gives the system flexibility for optimizing memory allocations for a more efficient memory system.

Regarding Claim 7, Nakhimovsky discloses the method as claimed in claim 1. Nakhimovsky does not teach the expansion area is released upon a reservation request coming from another individual system if said expansion area is requested as a directly required area by this other individual system. Bishop discloses that an expansion area is released upon a reservation request coming from another individual system if said expansion area is requested as a directly required area by this other individual system (suspending the request of the second thread and inserting an entry for the request of the third thread, Col. 5, lines 55-61; wherein the request for a directly required area is represented by the third thread’s request for 150K of memory, Col. 5, lines 41-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the system to reallocate a previously allocated memory area to a new requestor, as disclosed by Bishop, since doing so gives the system flexibility for optimizing memory allocations for a more efficient memory system.

Regarding Claim 8, Bishop discloses the expansion area being released upon a reservation request coming from another individual system if said expansion area is requested as an expansion area by this other individual system (suspending the request of the second thread and inserting an entry for the request of the third thread, Col. 5, lines 55-61; wherein the request for a directly required area is represented by the third thread's request for 150K of memory, Col. 5, lines 41-48 and these requests represent requests for expansion memory areas for the threads to complete execution of their operations, Col. 3, lines 5-18).

Regarding Claim 9, Bishop discloses that only a particular part of the expansion area is released upon a reservation request coming from another individual system if said expansion area likewise relates only to the expansion area in the case of this other individual system (only the amount of data that is needed by the request is released, 150K, see Col. 5, line 40-61).

Regarding Claim 12, Nakhimovsky discloses the method as claimed in claim 1. Nakhimovsky does not teach that the release of the directly required area upon a reservation request coming from another individual system is dependent on the urgency of the respective reservation. Bishop et al. discloses the release of the directly required area upon a reservation request coming from another individual system is dependent on the urgency of the respective reservation (dependent on the comparison of priorities, Col. 5, lines 49-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the system to reallocate a previously allocated memory area to a new requestor, depending on the new requestors priority, as disclosed by Bishop, since doing so gives the system flexibility for optimizing memory allocations for a more efficient memory system, by allocating the memory to the higher priority threads.

Claim 16 is rejected using the same rationale as that of Claims 1 and 9.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Rojas whose telephone number is (571) 272-4207. The examiner can normally be reached on M-F 5:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Midys Rojas/
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Art Unit 2185

MR



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